Advanced Topics in Structural Equation Modeling

Location: CIQSS, 3535 Queen-Mary, Suite 420, Montréal
Dates: April 25–27, 2016

Financial support for this Data Training School is provided by the Fonds québécois de recherche sur la société et la culture and the QICSS member institutions[1]

Trainer

The seminar is under the responsibility of Dr. Rex B. Kline, Professor, Department of Psychology, Concordia University; rex.kline@concordia.ca; 514-848-2424, ext.7556; http://tinyurl.com/rexkline

Eligibility and Registration

The course is open to graduate students and postdoctoral fellows as well as to professors and applied researchers The seminar is limited to a maximum of 20 participants registered on a first-come, first-served basis. Online registration will take place on the CIQSS web site. Contact and registration information:

Luc St-Pierre, l.st-pierre@umontreal.ca
CIQSS website, http://www.ciqss.umontreal.ca/

Course Description and Content

The sessions are in English. This three-day seminar deals with advanced topics in structural equation modeling (SEM). It is assumed that participants have a working knowledge of basic SEM applications, including path analysis and confirmatory factor analysis (CFA) in single samples. Topics for this advanced seminar include:

- Power analysis at the model level
- Analyzing categorical indicators (e.g., items) in CFA
- Mean structures (analyzing means and covariances)
- Latent growth models and nonlinear curve fitting
- Evaluating measurement invariance in CFA
- Estimating interaction effects

The presentation of topics will be conceptually rather than mathematically oriented despite the advanced level of the course, and many research examples will be considered.

Seminar Web Page

From the seminar web page you can download the slides and articles in PDF format and also computer syntax, data, and output files in either text (ASCII) or PDF format for analysis examples. The address is

http://psychology.concordia.ca/fac/kline/sem/qicss2.html

[1]Université de Montréal, INRS-UCS, McGill University, Concordia University, Université Laval, Université du Québec, Université de Sherbrooke.

Daily Schedule

Morning		Afternoon	
9:30–11:0am	Session 1	1:30–3:00pm	Session 3
11:15am–12:15pm	Session 2	3:15–4:45pm	Session 4

Topics Schedule

Day	Topics
M	Power analysis, item-level CFA, mean structures
T	Latent growth models, measurement invariance in CFA
W	Mediation and moderation

Main Source (Optional)

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York: Guilford Press. (Book resource site at http://www.guilford.com/kline)

Other Readings (See seminar web page)

Edwards, J. R. (2009). Seven deadly myths of testing moderation in organizational research. In C. E. Lance & R. J. Vandenberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 143–164). New York: Taylor & Francis.

Edwards, J. R., & Lambert, L, S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, *12*, 1–22.

Hancock, G. R., & Freeman, M. J. (2001). Power and sample size for the Root Mean square Error of Approximation of not close fit in structural equation modeling. *Educational and Psychological Measurement*, *61*, 741–758.

Kline, R. B. (2015). The mediation myth. *Basic and Applied Social Psychology*, *37*, 202–213.

Millsap, R. E., & Yun–Tein, J. (2004). Assessing factorial invariance in ordered-categorical measures. *Multivariate Behavioral Research*, *39*, 479–515.

Park, I. & Schutz, R. W. (2005). An introduction to latent growth models: Analysis of repeated measures physical performance data. *Research Quarterly for Exercise and Sport*, *76*, 176–192.

Wu, A. D., Li, Z., & Zumbo, B. D. (2007). Decoding the meaning of factorial Invariance and updating the practice of multi-group confirmatory factor analysis: A demonstration with TIMSS data. *Practical Assessment Research & Evaluation*, *12*(3). Retrieved from http://pareonline.net/pdf/v12n3.pdf